Inventory management

Inventory management is the supervision of noncapital zed assets -- or inventory -- and stock items. As a component of supply chain management, inventory management supervises the flow of goods from manufacturers to warehouses and from these facilities to point of sale. A key function of inventory management is to keep a detailed record of each new or returned product as it enters or leaves a warehouse or point of sale.

Organizations from small to large businesses can make use of inventory management to track their flow of goods. There are numerous inventory management techniques, and using the right one can lead to providing the correct goods at the correct amount, place and time.

Inventory control is a separate area of inventory management that is concerned with minimizing the total cost of inventory, while maximizing the ability to provide customers with products in a timely manner. In some countries, the two terms are used synonymous

Inventory management techniques

Inventory management uses several methodologies to keep the right amount of goods on hand to fulfill customer demand and operate profitably. This task is particularly complex when organizations need to deal with thousands of stock-keeping units (SKUs) that can span multiple warehouses. The methodologies include:

- **Stock review**, which is the simplest inventory management methodology and is, generally, more appealing to smaller businesses. Stock review involves a regular analysis of stock on hand versus projected future needs. It primarily uses manual effort, although there can be automated stock review to define minimum stock levels that then enables regular inventory inspections and reordering of supplies to meet the minimum levels. Stock review can provide a measure of control over the inventory management process, but it can be labor-intensive and prone to errors.

- **Just-in-time (JIT) methodology**, in which products arrive as they are ordered by customers and is based on analyzing customer behavior. This approach involves researching buying patterns, seasonal demand and location-based factors that present an accurate picture of which goods are needed at certain times and places. The advantage of JIT is customer demand can be met without needing to keep large quantities of products on hand and in close to real time. However, the risks include misreading the market demand or having distribution problems with suppliers, which can lead to out-of-stock issues.
- **ABC analysis methodology**, which classifies inventory into three categories that represent the inventory values and cost significance of the goods. Category A represents high-value and low-quantity goods, category B represents moderate-value and moderate-quantity goods, and category C represents low-value and high-quantity goods. Each category can be managed separately by an inventory management system. It's important to know which items are the best sellers to keep enough buffer stock on hand. For example, more expensive category A items may take longer to sell, but they may not need to be kept in large quantities. One of the advantages of ABC analysis is that it provides better control over high-value goods, but a disadvantage is that it can require a considerable amount of resources to continually analyze the inventory levels of all the categories.
- **Economic order quantity (EOQ) methodology**, in which a formula determines the optimal time to reorder inventory in a warehouse management system. The goal here is to identify the largest number of products to order at any given time. This, in turn, frees up money that would otherwise be tied up in excess inventory and minimizes costs.
- **Minimum order quantity (MOQ) methodology**, in which the smallest amount of product a supplier is willing to sell is determined. If a business can't purchase the minimum, the supplier won't sell it to them. This method benefits suppliers, enabling them to quickly get rid of inventory while weeding out bargain shoppers.

- **First in, first out (FIFO) methodology**, in which the oldest inventory is sold first to help keep inventory fresh. This is an especially important method for businesses dealing with perishable products that will spoil if they aren't sold within a specific time period. It also prevents items from becoming obsolete before a business has the chance to sell them. This typically means keeping older merchandise at the front of shelves and moving new items to the back.
- **Last in, first out (LIFO) methodology**, in which the newest inventory is typically recorded as sold first. This is a good practice when inflation is an issue and prices are rising. Because the newest inventory has the highest cost of production, selling it before older inventory means lower profits and less taxable income. LIFO also means the lower cost of older products left on the shelves is what's reported as inventory. However, this is a difficult technique to put into practice, as older items that sit around have a chance of becoming obsolete or perishing.
- **Safety stock methodology**, in which a business sets aside inventory in case of an emergency. The safety stock approach also provides a signal that it's time to reorder merchandise before dipping into the safety stock. It's a good idea for businesses to work safety stock into their warehouse management strategy in case their supply chain is disrupted.

Benefits of Inventory Analysis

Inventory analysis raises profits by lowering costs and supporting turnover. It also:

1. **Improves Cash Flow:** Inventory analysis helps you identify and reorder items you sell often, so you don’t spend money on inventory that moves slowly.

2. **Reduces Stock outs:** When you understand which inventory customers want most, you can better anticipate demand and prevent stockouts.

3. **Increases Customer Satisfaction:** Analyzing inventory offers insight into what and how customers purchase goods.

4. **Reduces Wasted Inventory:** Understanding what, when and how much people buy minimizes the need to store obsolete products, as well as when products expire so you can have a strategy behind using them.

5. **Reduces Project Delays:** Learning about supplier lead times helps you understand when to reorder and how to avoid late shipments.

6. **Improves Pricing From Suppliers and Vendors:** Inventory analysis can lead you to order high volumes of products regularly rather than small volumes on a less reliable schedule. This regularity can put you in a stronger position to negotiate discounts with suppliers.

7. **Expands Your Understanding of the Business:** Reviewing inventory provides insights into your stock, customers and business.